Introduction - IT Architecture Capability Maturity Model

The Operating Units of the Department of Commerce (DoC) have made a heavy investment in the development of enterprise-wide IT Architectures. We need to ensure that the Department continues to build on previous efforts and fully realize the benefits of IT Architecture.

Assessments of IT processes within an organization are needed to evaluate where we are and where we should be headed. The Department has developed an IT Architecture Capability Maturity Model (CMM) to aid in conducting such assessments. The goal is to enhance the overall odds for success of the IT Architecture by identifying weak areas and providing a defined path towards improvement. As an Architecture matures it should increase the benefits it offers the organization.

Over the past few years many disciplines have developed capability maturity models designed to support process improvement. These include the areas of software development, systems engineering, integrated product and process development, and security. The process maturity model most IT organizations use or base their models on is the Software Engineering Institute's (SEI) Capability Maturity Model for describing the evolution of software development processes. An evolving/emerging best practice indicates that IT Enterprise Architecture organizations should similarly manage their IT Architecture efforts according to capability maturity models.

The IT Architecture CMM developed by the Department provides a framework that represents the key components of a productive IT Architecture process. The CMM delineates an evolutionary way to improve the overall process that starts out in an ad hoc state, transforms into an immature process, and then finally becomes a well-defined, disciplined, and mature process.

The CMM is intended to be used annually by each Operating Unit and each CIO to conduct an assessment of the Operating Unit's IT Architecture capability and progress.

The ACMM is comprised of three sections as shown below:

1. The DoC IT Architecture Maturity Model
2. Department of Commerce IT Architecture Characteristics of Operating Units' Processes at Different Maturity Levels
3. DoC IT Architecture Capability Maturity Model Scorecard.

The first two sections explain the Architecture Capability Maturity levels and the corresponding IT Architecture characteristics for each maturity level to be used as measures in the assessment process. The third section is used to derive the Architecture Capability Maturity level that is to be reported to the DoC Chief Information Officer.

The DoC IT Architecture Capability Maturity Model consists of six levels and nine architecture characteristics. The six levels are shown below:

0. None
1. Initial
2. Under Development
3. Defined
4. Managed
5. Measured.

The nine IT Architecture Characteristics are as follows:

4. Architecture Process
5. Architecture Development
6. Business Linkage
7. Senior Management Involvement
8. Operating Unit Participation
9. Architecture Communication
10. IT Security
11. Governance
12. IT Investment and Acquisition Strategy.

Two complementary methods are used in Section 3 of the ACMM to calculate an Operating Unit's maturity rating. The first method obtains an Operating Units's weighted mean IT Architecture Maturity Level. The second method shows the percent achieved at each maturity level for the nine architecture characteristics. The IT Architecture Maturity Level Scorecard and the instructions for the two methodologies are found on pages 5 and 6 of the Scorecard.